

CORRESPONDENCE.

THE ZONAL POSITION OF THE ELSWORTH ROCK.

SIR,—Will you allow me, in view of Dr. Arkell's article in a recent number of the GEOLOGICAL MAGAZINE, to suggest that the zonal position of the Elsworth Rock as given in my Kachh Memoir (p. 872) is unassailable. Most of your readers will have recognized that there is not much that is new in Dr. Arkell's article, except names (which may be wrong). I do not claim that my work is entirely free from errors. For example, I may have been carelessly copying an ambiguous name like "Calcareous Grit" from an old ammonite label, or used the term *perarmatus* zone, without qualifying it every time; but I naturally had in my own mind what I had elsewhere in the same work said about the same ammonite or zone, without troubling to repeat it every time I mentioned them. It is quite beyond me to see the purpose of an entirely one-sided and misleading selection of passages and species and even dates of publication; the way in which the various zonal terms are used by Dr. Arkell seems to show that he produced apparently contradictory opinions mainly in order to be able to correct them.

L. F. SPATH.

BRITISH MUSEUM (NATURAL HISTORY).
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THE SUPPOSED BASAL COMPLEX IN JAMAICA.

SIR,—The so-called Basal Complex in Jamaica is again up for dispute. I would feel more confidence in it if Dr. Matley could make up his mind which rocks are to be included, or if he and Dr. Stockley could agree on this point. I have already stated my reasons for considering all the major intrusives of Jamaica to be Tertiary, including the granodiorite which replaces all the sedimentaries up to and well into the White Limestone. Until a further visit to Jamaica may possibly reveal more exposures, I have nothing more to say on this question. As regards the rocks which look like and behave in the field as hornfelses and were labelled so on my rock slices, I am well aware that some of these appear to be "igneous" under the microscope, which tends to support my contention that in Jamaica we have sedimentaries altered *in situ* into rocks that would ordinarily be classified as igneous.

Regarding Dr. Raw's diagnoses; readers will form their own opinions as to which category of "igneous" rocks a "rhyolitic glass tuff, now devitrified, with flow and perlitic texture, much quartz and epidote and some serpentine", should be placed in. Also in one of my greenish dykes from near Bath, Dr. Raw should not

describe holes made in grinding the slice as "highly vesicular structure".

His diagnosis of a "Jaspery rock which may be an altered chert", from the section below the Lazaretto, is interesting because the "hornfels" and marble there is quite clearly a product of alteration of the White Limestone (GEOL. MAG., June, 1936, p. 261). I attributed this to gases associated with an intrusion, but Dr. Matley ridicules this idea. Those who work in Wales and Anglesey may not always realize the ferocity of action of a volcano of the West Indian type. Take the case of Mount Pelée on 8th May, 1902; "an inhabitant of Morne Rouge who was watching the volcano at the moment of the catastrophe said there were seven luminous points on the volcano's side just before it burst." This looks like gases heating their way through the rock. I have bottles from St. Pierre, six miles from the crater, in which a single whiff of the *nuée ardente* has crumpled up and devitrified to a fibrous wollastonite-like material the neck or other part, the glass below it showing a distinct perlitic-like structure.

The Serge Island marble has to me the fine grained, loosely rolled-out appearance of a late formation. There are similar but much more extensive marbles and crystalline limestones in the Northern Range of Trinidad which are all of Upper Cretaceous age. What is needed is a resurvey of the whole island, not merely of the Kingston district, but in view of the greatly weathered condition of the country I doubt if much improvement could be made on the Sawkins map of 1864.

C. T. TRECHMANN.

CASTLE EDEN,
CO. DURHAM.
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